

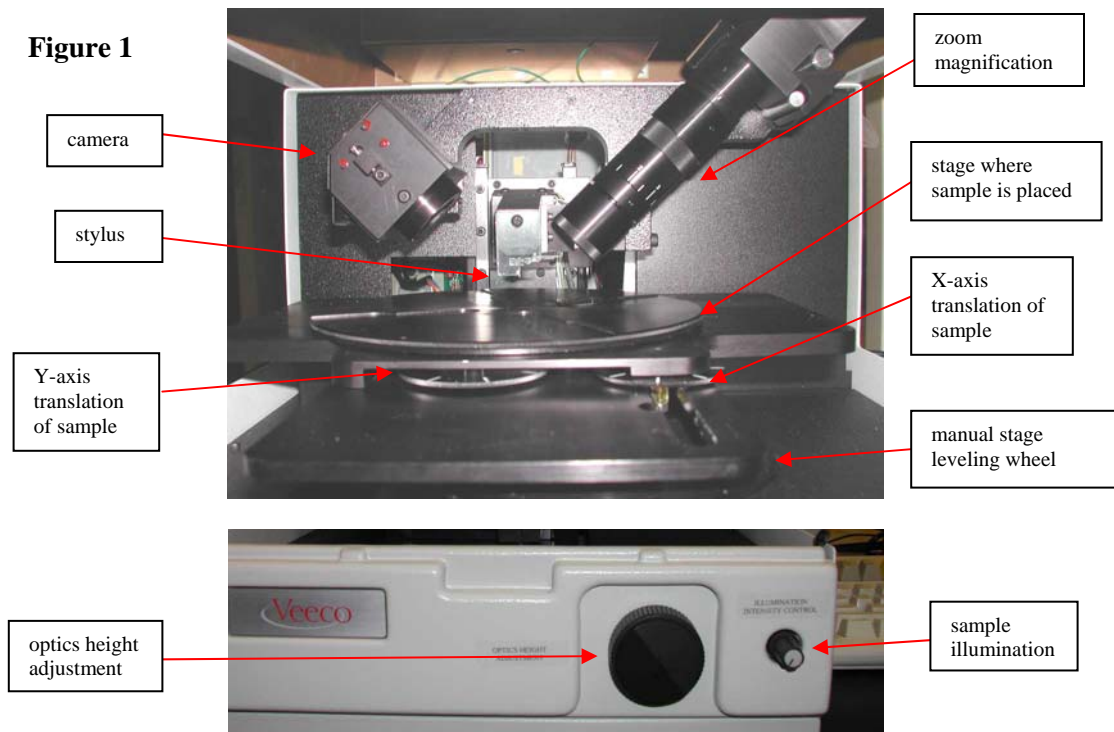
Dektak Step by Step Instructions:

Before Using the Equipment – SIGN IN THE LOG BOOK

Part 1: Setup

1. Turn on the switch at the back of the dektak machine. Then start up the computer.
2. Place the sample on top of the sample stage, and manually move the stage and/or the sample until the sample is located under the stylus.
3. The dektak software should start up automatically, but if it doesn't there is a dektak icon on the desktop. Once the software is open, go to Display ~> Sample Positioning on the top menu bar. Then use the optics height adjustment knob on the front of the dektak until the sample is reasonably in focus. You can manually move the stage and use the wheels just below the sample stage to position your sample where you want it.

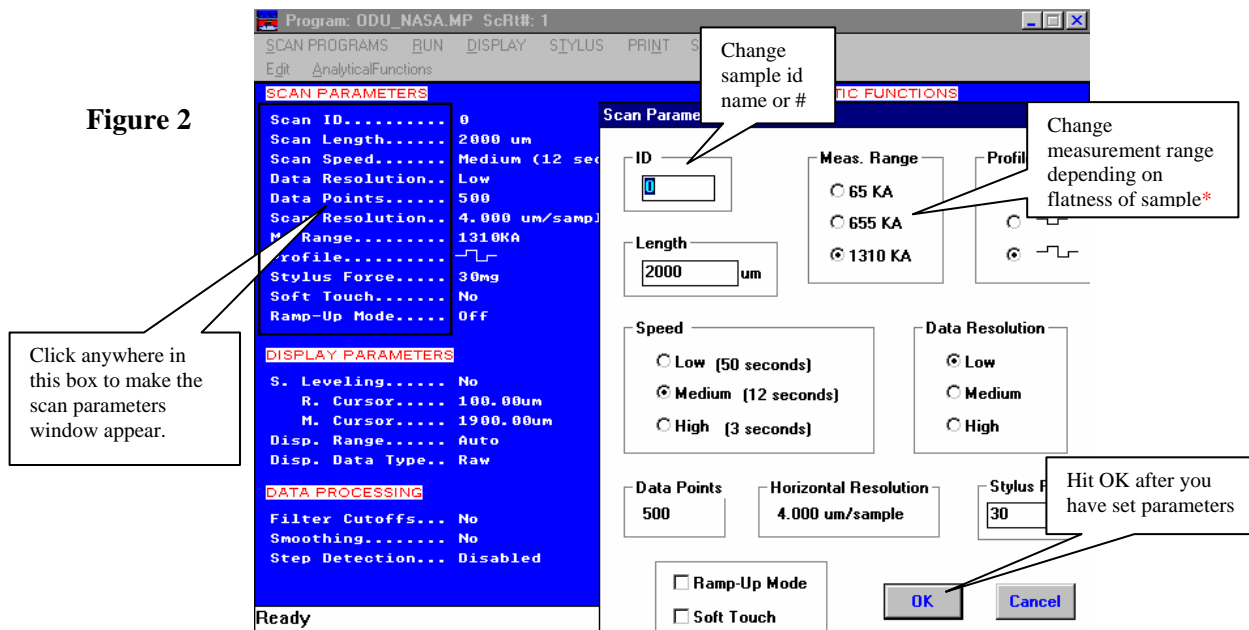
Figure 1



4. Align the stylus by going to Setup ~> Stylus Reticule ~> Align. Hit yes. When the tip finishes approaching, align the 'X' with the intersection of the tip and its shadow, and double click. Then press OK. If the intersection does not occur inside the red box, try using the optics height adjustment knob until the sample is focused and the intersection is in the box.

On the top menu bar, select Scan Programs ~> Scan Routine. Figure 2 is the scan routine window.

Figure 2



* Set the measurement range at 1310KA and continue. After the sample is leveled at 1310KA, it can be lowered to 655 KA, etc.

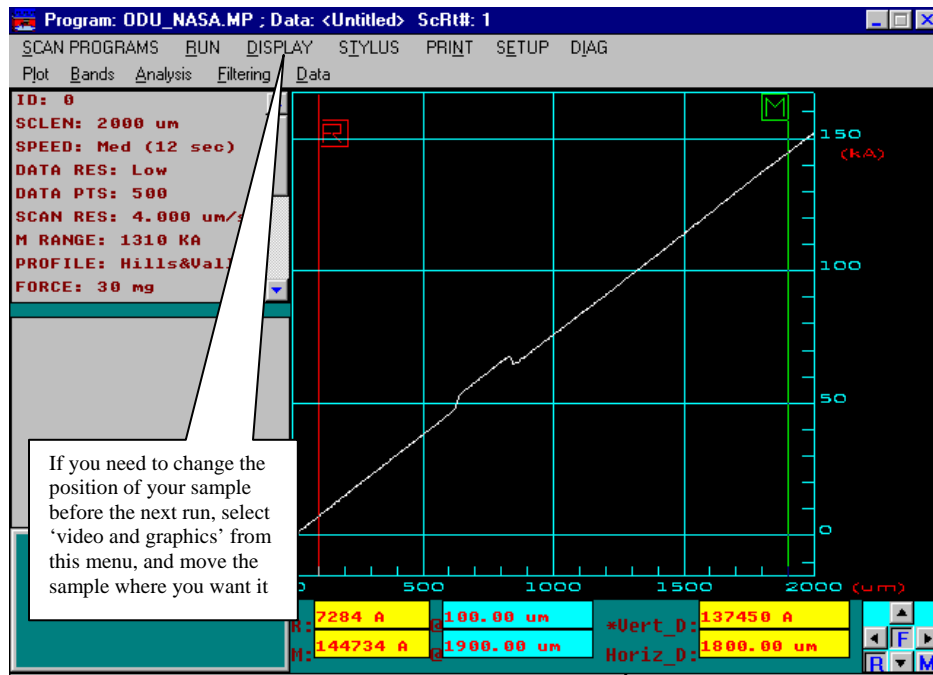
Note: Use the larger measurement range with large step heights. Otherwise the step height might not be recognized.

- Once scan parameters have been set, either press the green 'run' key on the keyboard, or choose
Run ~>Run Single Scan from top menu bar.

Part 2: Leveling and Step Height Measurement

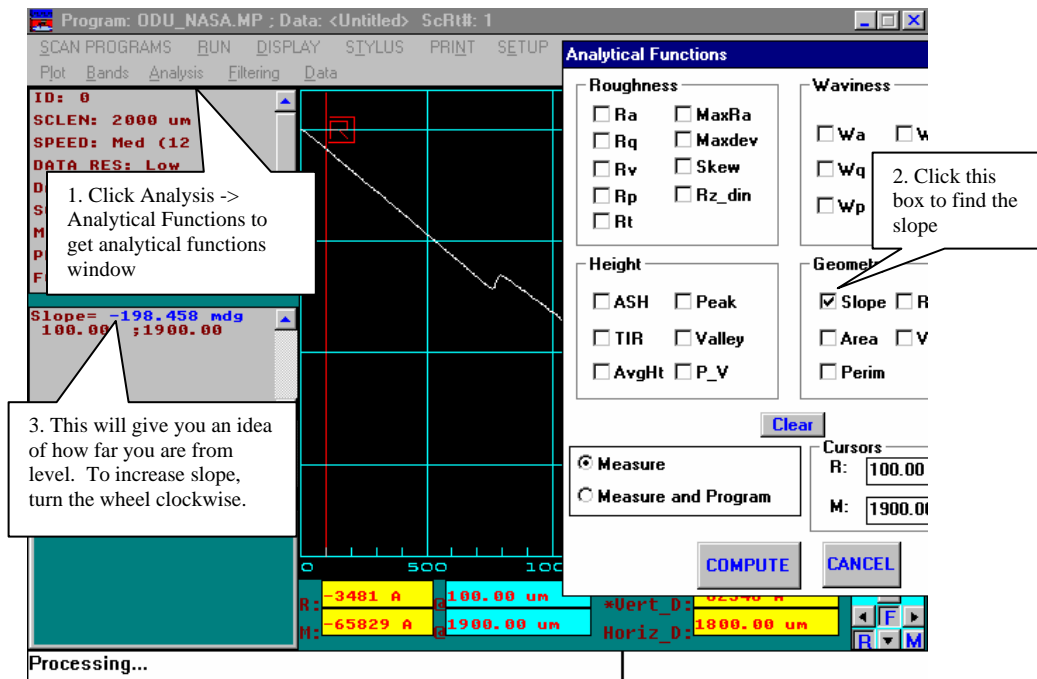
6. After the first run, you'll see something similar to figure 3 and probably notice that the scan is not level. To get the most accurate data, you'll need to level the sample stage.
7. The best way to manually level the sample stage is to align it while it is running:
 - a. Press the "run" key.
 - b. Wait for the scan to start and a white line to appear from the left.
 - c. Turn the manual stage leveling wheel (see figure 1) as the line continues across the screen to counter the slope of the line.
e.g., if the line moves downward, turn the wheel to the left so that the slope of the scan line is slightly less negative.
 - d. Try to alter the slope so that a scan runs nearly horizontally (this may take many separate runs).

Figure 3



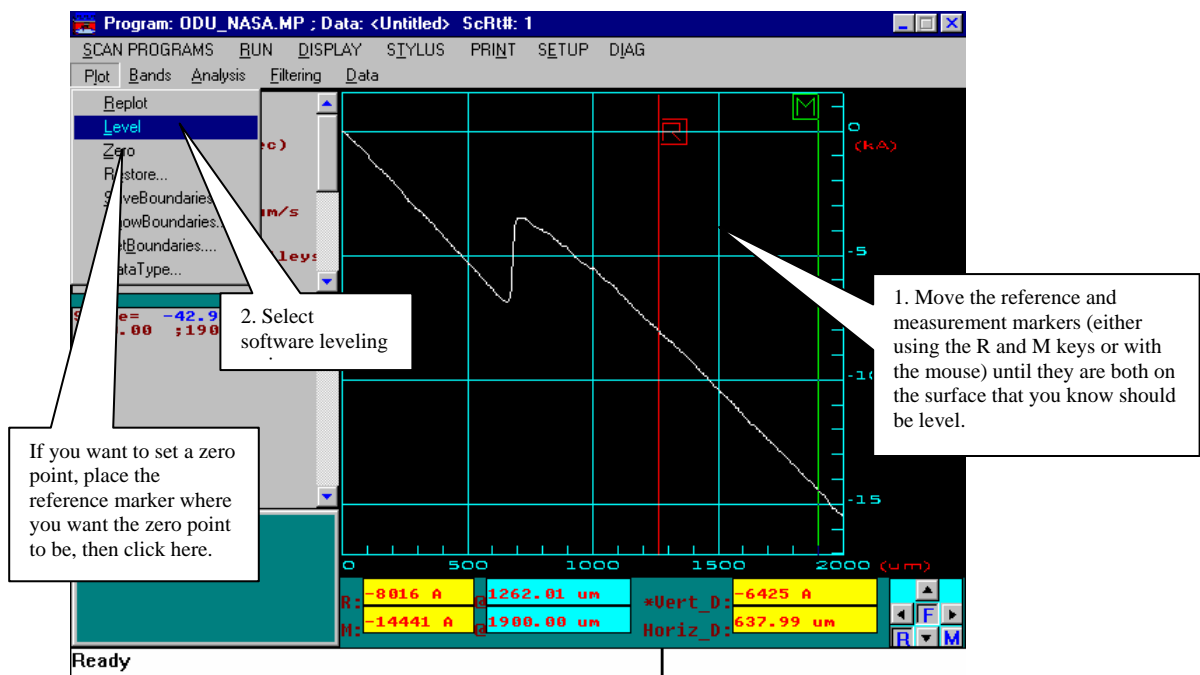
9. If you want to have an idea of how far from level you are, you can use the slope function. For maximum performance, try to position the sample surface to within 10 millidegrees from level.

Figure 4

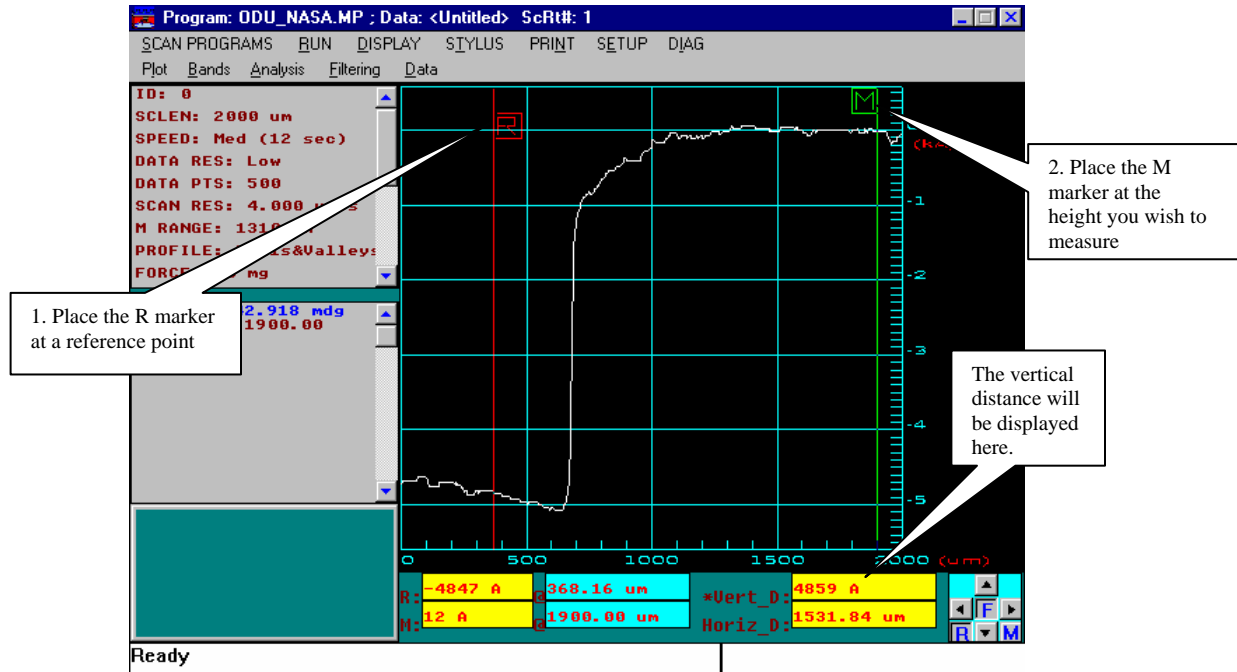


10. Repeat runs and manual sample leveling until the scan runs by itself nearly horizontally with a measurement range of 1310KA (refer back to figure 2). Then level it again until fairly horizontal on 655KA, then 65KA. Then use the software leveling function, following the boxes on figure 4:

Figure 4



10. Now you can use the R and M markers to measure step height accurately:



You can use either the markers (point to point comparison) or bands, which compare the average of two areas. To turn on bands, select Bands-> Default Bands. Bands can be moved and sized using the four control arrows at the bottom right corner of the screen. When using bands, you need to compute the Average Step Height between the two areas. The ASH function is found in the list of analytical functions shown in part two.

Note: There are several types of analytical functions available under “Analysis” that you may wish to incorporate into your measurements.

Please refer to the Dektak Operating Manual for a complete set of instructions.

Part 3: Shutting Down

11. If you wish to print out your data and plot, go to Print -> Plot and Summary
12. If you wish to save your data, go to Data -> save data or Data-> export
13. Exit out of the Dektak Software
14. Shut down the computer and turn the monitor off.
15. Carefully remove sample from sample stage.
16. Turn off the switch at the back of the Dektak.